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EXAMINER

WILSON, BRIAN P

ART UNIT	PAPER NUMBER
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4163

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/589,566	Applicant(s) MEYER ET AL.	
	Examiner BRIAN WILSON	Art Unit 4163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8-16-2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8-16-2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 32 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 32 is directed to a computer program not present or not associated with a computer readable medium, thus the claim is not directed to any of the statutory categories of invention.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-31, and 34-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Schofield (U.S. Patent 5,949,331).

Regarding claim 18, Schofield teaches a method for graphically processing an image (**Abstract; Fig. 5, item 18**) provided by a camera device (**Abstract; Fig. 5, items 14 & 16**), of surroundings of a vehicle (**Abstract; Fig. 1, item 10**) or in a direction of travel of the vehicle (**Abstract; Fig. 1, item D**) for presentation to an observer or to a driver of the vehicle (**Abstract; Col. 3, line 56**), the method comprising the steps of: a) detecting an obstacle in the surroundings of the

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vehicle; (**Fig. 3, note vehicles; Col. 11, lines 6-12; note, vehicle**) b) determining a position of the obstacle relative to a position of the vehicle; (**Fig. 3; Col. 11, lines 6-12; note, system determines if a trailing vehicle is too close**) c) determining a position of the obstacle relative to the surroundings; (**Fig. 3; Col. 11, lines 6-12; note, distinguishing the vehicle from other objects**) d) determining a position of the obstacle in the image provided by the camera device; (**Col. 11, lines 6-12; note, system determines if an object is too close, and displays it relative to the equipped vehicle**) and e) processing the image thereby taking into consideration the determined position of the obstacle in the image. (**Col. 11, lines 6-12; note, if a vehicle is too close it will be distinguished from other objects by changing its color to red**)

Regarding claim 19, Schofield teaches the method of claim 18. Schofield further teaches wherein a graphical object illustrating an expected future course of travel of the vehicle is faded into the image (**Fig. 6, items 70A&70B**) of the camera device and the position of the obstacle in the surroundings is determined using the known distance between the obstacle and the vehicle (**Col 11, lines 20-24**) or the camera device (**Col 11, lines 24-27**), wherein the position of the obstacle in the image (**Fig. 6, note car in path of travel**) represents the determined actual distance between the obstacle and the camera device.

Regarding claim 20, Schofield teaches the method of claim 18. Schofield further teaches wherein the expected future course of travel is determined using information concerning a steering angle of the vehicle (**Col. 10, line 42**) and a fictitious camera position is illustrated in a

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lower portion of the image. **(Fig. 10, item 66'; note, that the dead space illustrates the fictitious camera position on the back of a vehicle)**

Regarding claim 21, Schofield teaches method of claim 19. Schofield further teaches wherein the graphical object which is faded into the image of the camera device to illustrate the course of travel **(Fig. 6, items 70A&70B)** comprises a symbol indicating an end of travel motion **(Fig. 6, items 70A&70B; note, end of travel motion is the vehicle at the end of the intended path of travel)**, the symbol being a limiting line **(Fig. 6, items 70A&70B; note, hash marks)**, limiting means symbolically presented on the course of travel, a barrier, a gate, or a fence disposed approximately at a level of the determined position of the obstacle in the image **(Fig. 6, items 70A&70B).**

Regarding claim 22, Schofield teaches the method of claim 19. Schofield further teaches wherein the graphical object illustrating the course of travel is imaged only to approximately a level of the determined position of the obstacle in the image **(Fig. 6, items 70A & 70B)**, but not for larger distances from the vehicle or the camera device. **(Fig. 6, items 70A & 70B; note, that 70A doesn't continue on for large distances from the vehicle i.e. such as to the horizon of the image)**

Regarding claim 23, Schofield teaches the method of claim 19. Schofield further teaches wherein for large separations from the vehicle beyond an approximate location of the determined position of the obstacle in the image **(Fig. 6, items 70A & 70B; note, items 70A & 70B show the intended path of travel of the vehicle as indicated by the vehicles steering system.**

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These indicators will be displayed even if there is an obstacle in the way of the vehicle. The indicators are used to alert the driver to make a correction, or else there will be collision on their current path.), the graphical object in the form of the course of travel is only schematically indicated or is indicated using broken lines. **(Fig. 6, items 70A & 70B; note, that these items are broken lines)**

Regarding claim 24, Schofield teaches the method of claim 18. Schofield further teaches wherein as viewed by the camera device, at least one region of the surroundings of the vehicle is determined in which the obstacle is located **(Fig. 8, note regions)** and at least one graphical object is faded into the image of the camera device to optically emphasize a correlation between the obstacle and the at least one region and/or a position of the obstacle within this region. **(Fig. 6, vehicle and items 70A & 70B; note, that 70A is faded into the image, and shows the relation of the intended path of travel and a vehicle in its way)**

Regarding claim 25, Schofield teaches the method of claim 24. Schofield further teaches wherein a bar **(Col. 10, lines 56-58; note, grid markings)** or a bar which extends in a vertical direction from a lower edge of the image is faded into the image as the graphical object to indicate the position of the obstacle relative to the position of the vehicle or the camera device **(Col. 10, lines 58-59)**, wherein a horizontal position of the bar in the image represents the region of the surrounding and/or a height or length of the bar in a vertical direction represents the determined distance between the obstacle and the vehicle. **(Col. 10, lines 58-59)**

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Regarding claim 26, Schofield teaches the method of claim 25. Schofield further teaches wherein an outline of the bar is adjusted to the representation of the determined course of travel and is illustrated in a correspondingly bent and/or distorted fashion. **(Col. 10, lines 63-67 & Col. 11, lines 1-5)**

Regarding claim 27, Schofield teaches the method of claim 18. Schofield further teaches wherein a graphical object is faded into the image at the position of the obstacle in the image **(Col. 10, lines 56-63; note, a grid is superimposed on the image/obstacles to help the driver judge the relative position of following vehicles)** or at a position of a side of the obstacle facing or closest to the camera device, wherein the obstacle is at least partially covered. **(Col. 10, lines 56-63; note, grid is superimposed on the image, this includes anything in the image including obstacles.)**

Regarding claim 28, Schofield teaches the method of claim 27. Schofield further teaches wherein the outline of the graphical object has a basic geometric form, is rectangular **(Col. 10, lines 56-63; note, that a grid has a rectangular form)**, oval, triangular or has a form of a determined outline of the obstacle.

Regarding claim 29, Schofield teaches the method of claim 19. Schofield further teaches, wherein the graphical object is semi-transparent or represented only as an outline. **(Fig. 6, items 70A & 70B; note that these items represent an outline of the intended path of travel of the vehicle)**

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Regarding claim 30, Schofield teaches the method of claim 19. Schofield further teaches, wherein the graphical object is represented as a colored surface (**Fig. 6, items 70A&70B; note, graphic overlay item 70A is black to help illustrate the anticipated path of travel**), wherein a color can optionally be varied in accordance with the determined distance between the obstacle and the vehicle or the camera device. (**Since this feature is “optional”, it has not been given significant patentable weight.**)

Regarding claim 31, Schofield teaches the method of claim 18. Schofield further teaches, wherein the image of the camera device is manipulated (**Col. 11, line 6; note, alter**), brightened, or colored (**Col. 11, line 11**) in a region (**Col. 11, line 7; note, the particular zone surrounding the vehicle**) of the determined position of the obstacle, wherein the manipulation depends on a magnitude of the determined distance between the obstacle and the vehicle (**Col. 11, lines 9-12; note, too close**), varies in time and/or flashes. (**Col. 11, line 11; note, flash**)

Regarding claim 34, Schofield teaches a warning device for a vehicle (**Col. 11, line 8**), comprising: a camera device for generating images of surroundings of the vehicle (**Fig. 5, items 14 & 16**) or in a direction of vehicle travel (**Col. 3, lines 55-57**); an image processing device for processing the images produced by the camera device (**Fig. 5, item 18**); a display means for displaying the processed image to a viewer or to a driver of the vehicle (**Fig. 5, item 20**); an obstacle detection/distance measuring device for detecting an obstacle in the surroundings of the vehicle and for determining a real position of the obstacle (**Col. 11, lines 20-27**); a transformation device for transforming the real position of the obstacle in the surroundings into a

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corresponding position of the obstacle in the image of the camera device (**Col. 3, lines 63-67; not, synthesizing**); and means, within said image processing device (**Fig. 5, item 18**), for processing the image of the camera device (**Fig. 5, items 14, 16, and 18**), thereby taking into consideration the determined position of the obstacle in the image. (**Col. 11, lines 6-12; note, that system will provide a warning if a vehicle is too close**)

Regarding claim 35, Schofield teaches the warning device of claim 34. Schofield further teaches wherein the image processing device is designed to process the image of the camera device (**Col. 10, line 28-31**) while taking into consideration vehicle parameters or a vehicle steering angle. (**Col. 10, line 42**)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schofield (U.S. Patent 5,949,331) in view of Asahi (U.S. Patent 5,410,346).

Regarding claim 32, Schofield teaches

- a vehicle warning device in the method of claim 18. **(Col. 11, lines 6-12)**

However, Schofield does not teach

- *a computer program comprising a program code for a vehicle warning device, wherein the program code is designed to perform the method of claim 18.*

Saneyoshi teaches

- *a computer program comprising a program code for* **(Col. 7, line 67; note, computer programs contain executable code)**
- *wherein the program code is designed to perform.* **(Col. 7, line 63-67; note, that the control program calculates distance information relating to detected objects/obstacles)**

It would have been obvious to one of ordinary skill in the art to combine Schofield's display system with Saneyoshi's computer program. This would allow the electronic image processing system to function, and calculate distances of obstacles in relation to the vehicle to produce an appropriate graphic overlay to warn the driver of possible danger.

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Regarding claim 33, Schofield in view of Saneyoshi, teach the computer program in claim 32.

However, Schofield does not teach

- *a data carrier having the computer program.*

Saneyoshi teaches

- *a data carrier having the computer program. (Col. 7, line 66-67; note, ROM on which the program is stored)*

It would have been obvious to one of ordinary skill in the art to combine Schofield's display system with Saneyoshi's computer program on a data carrier. This allows the computer program to function, and calculate distances of obstacles in relation to the vehicle to produce an appropriate graphic overlay to warn the driver of possible danger.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Asahi (U.S. Patent 7,295,227) discloses a system to help a driver park that displays their intended path of travel. Okamoto (U.S. Patent 7,277,123) discloses a vehicle assist system that displays an intended path of travel. Yasui (U.S. Patent 6,825,779) discloses a rendering device that displays an anticipated path of travel of a vehicle. Kojima (U.S. Patent 6,327,522) discloses a display apparatus for a vehicle that determines the distance to obstacles, and can change the appearance of that object.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Wilson whose telephone number is (571)270-5884. The examiner can normally be reached Monday-Thursday from 8-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on (571)272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. W./

/Mark A. Robinson/
Supervisory Patent Examiner, Art Unit 4163